Applications of Percent
Algebra 1 Homework

Skills

Calculate each amount. Give answers to the *nearest hundredth*, where appropriate.

1. Increase 3200 by 14%.

2. Increase 125 by 5.5%.

3. Decrease 52,400 by 8%.

4. Decrease 6.75 by 4%.

5. Increase 2008 by 10%.

6. Increase 42.79 by 3%.

7. Decrease 54.95 by 30%.

8. Decrease 109.79 by 20%.

9. Increase 64.36 by 18%.

10. Decrease 6.65 by 12%.

Applications

11. The number of students at The Morris Technical Academy for the current year is 5,214. The admissions office staff anticipates an enrollment increase of 6% for next year. How many students is the admissions office staff expecting to enroll at the academy next year? Give your answer to the *nearest whole number*.

12. The value of a stock portfolio at the end of the current year is $82,451. If the portfolio's value drops by 9.5% over the course of the next year, what will be the portfolio's value? Give your answer to the *nearest dollar*.

13. Ecologists have noticed that the population of a certain species of fish in Munson Lake has been declining at an 8% annual rate for several years. If the population of the fish currently stands at 1500, how many of the species of fish do the ecologists expect to be there *two* years from now? Give your answer to the *nearest whole number*.

14. A surveyor measures the distance across the widest part of a pond to be 386 feet. If the widest part is actually 407 feet wide, calculate the percent error in the surveyor's measurement to the nearest *tenth* of a percent.

15. A mason estimates that the volume of cement needed to pour a garage floor is 128 cubic feet. If the actual amount needed is 116 cubic feet, calculate the percent error in the mason's measurement to the nearest *tenth* of a percent.

16. A geologist weighs a rock sample, arriving at a weight of 8.62 pounds. If the actual weight of the object is 8.56 pounds, calculate the percent error in the geologist's measurement. Give your answer to the nearest *tenth* of a percent.

Reasoning

17. A number is increased by 8%, and the result is then increased by 12%. The final number can be obtained from the original number by multiplying the original number by

    (1) 0.20   (2) 1.20   (3) 1.2096   (4) 1.96

18. The population sign for Munson Meadows states that it has a population size of 14,782 people. The town board believes that this figure is within a 3% margin of error. Find the largest and smallest values that are possible for the population of Munson Meadows. Round your answers to the nearest whole number.

Quiz   Section   **Show work in the space provided**

Name: _____ Date: _____

1. Use the word bank to Complete the following {divide, multiply, 100, 10, subtract}

    a. To convert fraction to percent _____ by _____

    b. To convert decimal to percent _____by _____.

    c. To change a percent to a fraction _____ by _____ and reduce if possible

    d. To change a percent to a decimal _____ by _____.

    e. In your own words define percent: _____

_____

2. Write each percent as a decimal

    a. 14%   _____

    b. 5.2 %   _____

    c. 4%   _____

    d. 342%   _____

3. Write each decimal as a percent

    a. 0.54   _____

    b. 0.157   _____

    c. 1.36   _____

4. Write each fraction as a percent

    a. ½ _____

    b. ¼ _____

    c. 2½ _____

5. What is 20% of 500?

6. 5 is what percent of 65?

7. 12 is 60 percent of what number?

8. Increase 3500 by 15%

9. Decrease 1500 by 20%

10. A pair of sneakers was on sale at 35% off. If the original price is $265, how much would Mr. Plenty Shoes pay for the pair?

11. The value of your stock is $5,000. If the value drops by 5%. What is its current value?

12. John anticipates a salary increase of 5% next year. If his current salary is $70,000 per year. Calculate his weekly salary for next year. (Note: One year = 52 weeks)

13. John, Mark and James share a $25000 profit from their company. The amount they get is directly related to the percentage of the company they each own. If John own 35% of the company and Mark received $7,500. Determine how much John and James receive and the percentage of the company owned by Mark and James.

14